

Certified Public Manager Project: Knowledge Management for State Agencies

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Problem Statement

As an employee of the South Carolina Budget and Control Board's Human Resources Division (HRD) I wanted to ensure that whatever issue I made the focus of my Certified Public Manager Program Project was one that impacted multiple agencies. Therefore, when thinking through what the focus of my project should be I looked at issues I had seen at various agencies and that had received some publicity over the years. I also looked to resources outside of the agencies of the State of South Carolina to determine what challenges employers were facing and what was being done to address these issues.

Through my familiarity with agencies' practice of rehiring retirees I suspected that agencies may not have mechanisms in place to capture the knowledge of employees before they leave or to transfer this knowledge to other employees. I saw this same theme repeated in a broader sense through various reports on the concerns employers have regarding the aging of the workforce and the lack of ability to transfer knowledge held by these employees to others as these employees retire.

Based on these observations I decided to focus on Knowledge Management (KM) within SC State Agencies.¹

Data Collection

When determining what data to collect I wanted to focus on five things:

1. Does the age of the employees of the State of South Carolina indicate that many are near retirement?

¹ Initially I intended to focus on knowledge retention for my CPM project. As I began to learn more about knowledge retention, however, I realized that without a process to make the knowledge available to others within an organization, knowledge retention would have very little value. Therefore, I expanded my focus to the broader concept of knowledge management.

2. What is the employee turnover rate for employees of the State of South Carolina?
3. What are agencies currently doing in regards to KM?
4. Do agencies believe KM is important?
5. A review of current literature regarding KM.

The first two pieces of data were relatively easy to obtain. To determine the age of SC State Employees I requested a report of the average age of state employees and asked that this information be divided by pay band. I reviewed age by pay band to determine if the average age was different based on organizational level. I also reviewed the turnover rate for the 2010-11 fiscal year both for state employees overall and by agency. I realized that these numbers would be somewhat skewed by the number of Reductions in Force which had occurred during that fiscal year but decided these numbers would be sufficient for my purposes.

The information regarding agencies' knowledge retention processes was not as readily available because there is no central repository for this type of information among state agencies. (The irony is not lost on me that there is no mechanism to retain and share information about knowledge management.) In order to obtain information regarding KM processes currently being used by agencies, I sent a survey to all agency Human Resources Representatives². The survey consisted of the following questions:

- 1.) Name
- 2.) Agency
- 3.) Does your agency have a knowledge retention strategy? For example, do you currently have any process in place, rather informal or formal, to record or capture knowledge held by your employees? This may include procedure manuals, flowcharts, a mentoring program, etc.

² While KM is not always contained within the Human Resources function I felt that this population would best be able to tell me what was occurring in their agencies since Human Resources is almost always involved in some way in the KM process.

- 4.) If you answered yes to number three would you be willing to provide me with a copy of your knowledge retention strategy or process? If so, please provide the most convenient way for me to contact you.
- 5.) If you answered no to number 3, do you feel that failing to have a knowledge retention strategy has had an adverse effect on your agency?
- 6.) If you answered yes to number three, please explain your strategy.
- 7.) What do you feel are the barriers to implementing a knowledge retention process within your agency?
- 8.) Please identify key stakeholders within your agency whose support would be needed to successfully implement a knowledge retention process. If your agency already has a knowledge retention strategy please identify your key stakeholders.
- 9.) What do you need from the stakeholders identified above to successfully implement and sustain a knowledge retention strategy?
- 10.) If I need additional information would it be acceptable for me to contact you?

The survey was created using *Survey Monkey* and a request was sent via e-mail to agency Human Resources Representatives on November 9, 2011, asking that the survey be completed by November 23, 2011.

Data Analysis

Demographic Data

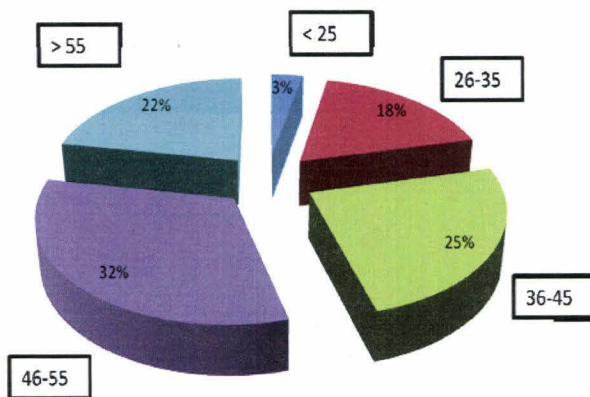
A review of State Employee demographic information revealed the following information:

| Pay Band | Average Age |
|----------|-------------|
| Band 1 | 51.55 |
| Band 2 | 42.77 |
| Band 3 | 42.21 |
| Band 4 | 45 |

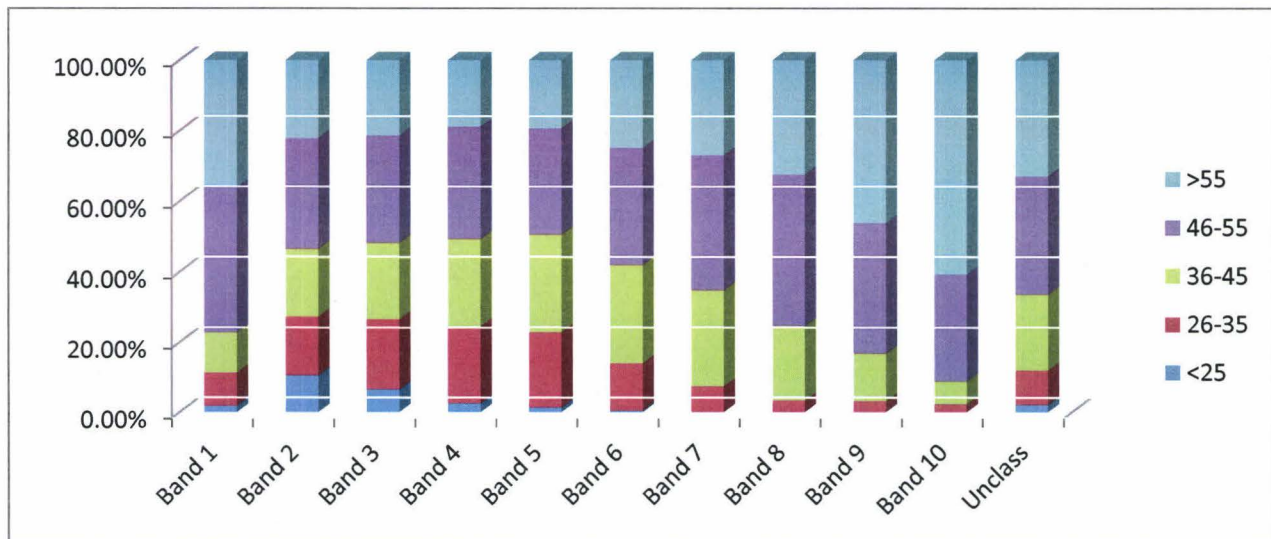
| | |
|--------------|-------|
| Band 5 | 43.39 |
| Band 6 | 47.04 |
| Band 7 | 48.65 |
| Band 8 | 50.46 |
| Band 9 | 52.18 |
| Band 10 | 55.51 |
| Unclassified | 48.83 |

Reviewing bands 8, 9, 10 and Unclassified, which in many agencies would include their mid-level and senior-level leadership, the average ages are 50.46, 52.18, 55.51, and 48.83, respectively. While it is impossible to know how many employees are approaching retirement without examining the individual characteristics of agency employees, this demographic information is sufficient, I believe, to conclude that current State Employees in leadership positions are approaching retirement age. Also, if it is assumed that employees in a lower band position, band six for example, would move into these leadership positions, it is startling to realize that the average age of these employees is 47.04. These employees may be approaching retirement not long after taking over an agency's leadership responsibilities. What this indicates to me is that in the coming years it will be necessary to transfer knowledge multiple times within an agency.

I also reviewed the percentage of State Employees by age range to get a better understanding of the make-up of State Employees. As you can see from the chart to the right, the majority of state employees (54%) are over the age of 46.



As reflected in below, most employees fall in the age range of 46 to over 55 for every pay band³.



As these employees approach retirement it will become even more critical that agencies take steps to preserve the knowledge held by these employees.

A review of the years of service in each pay band revealed the following:

| Pay Band | Average Years of Service |
|--------------|--------------------------|
| Band 1 | 11 |
| Band 2 | 8.64 |
| Band 3 | 9.66 |
| Band 4 | 11.25 |
| Band 5 | 12.22 |
| Band 6 | 13.92 |
| Band 7 | 15.99 |
| Band 8 | 18.21 |
| Band 9 | 17.80 |
| Band 10 | 12.51 |
| Unclassified | 10.74 |

Only Bands Two and Three have an average State Service of less than ten years. This suggests that employees have a significant amount of experience which will be lost when they retire or otherwise leave state government. It is important to note that these averages are well below the 28 years of service required for normal retirement benefits from the South Carolina Retirement Systems; however,

³ A full summary of this information can be found in the Appendices section. This information includes only agencies live on the SCEIS system as of January 31, 2012.

all of these averages are above the five years of service required for employees over the age of 65 for normal retirement under the South Carolina Retirement System. What I think we can conclude from the examination of the age and years of service information is that the State has an aging workforce with significant years of service. Agencies will need to examine their employees to identify employees who are eligible for or who are already eligible for retirement.

A review of the turnover data for state employees for the 2010-2011 fiscal year indicated that the average turnover rate was 12.16%.⁴ Excluding elected offices, the turnover rate for individual agencies ranged from 0.00% to 74.51%.⁵ Reviewing the data I realized that the 74.51% turnover rate was the result of a large Reduction in Force at that particular agency. Concerned that the data may be skewed by large numbers such as these, I looked at the data to see where most agency turnover rates fell. Out of ninety-four agencies⁶ included on the turnover report, the middle forty-six agencies had turnover rates ranging from 8% to 16%. This turnover rate was sufficient to determine that, even in the current economic climate when people are finding it hard to find new jobs, employees are leaving state agencies at a significant rate. Unless some action is taken to prevent it, they are taking their knowledge with them.

Survey Data

The information received from the survey sent to agency Human Resources Representatives is harder to quantify, but I found the responses very informative. Unfortunately, I received responses from only twenty-six agencies, but the information provided was helpful in determining the interest in knowledge retention among state agencies. Of the agencies that responded, fifteen indicated they had

⁴ This number captures only employees who left state government completely and does not include those who left one state agency for another.

⁵ While I excluded elected offices because the employees in these agencies often change completely when a new official is elected, it is important to note that knowledge will still need to be transferred between the incoming and outgoing employees.

⁶ Some agencies were divided into multiple sub-sections for reporting purposes; for example, each technical college was listed separately. In order to avoid manipulating the data unnecessarily I left the agencies separated for the purposes of my review.

some sort of knowledge retention process in place. The processes used by the agencies ranged from documenting process steps to programs encompassing multiple KM strategies.

I also asked agencies who did not have a knowledge retention process in place if they felt this had an adverse impact on their agency. Of the eleven agencies which indicated they did not have a process in place, eight indicated they felt that failing to have a KM process in place did have an adverse impact on their agency.⁷ These eight agencies employ nearly 9,500 employees. I determined that, even if only these eight agencies implemented a knowledge retention process, the impact was sufficient to warrant the time and effort necessary to create resources to assist agencies in the creation of a KM process.

In addition to the above questions, I asked agencies who had a knowledge retention process in place to provide details regarding their process and the barriers they felt impacted their agencies' ability to implement a KM process. I incorporated information provided by agencies into the KM Guide I created and ensured that the guide addressed the barriers specifically mentioned by agencies. Similarly, I asked agencies to identify the stakeholders and what they needed from these stakeholders to successfully implement a KM process and incorporated this information into the guide.

Literature Review

In order to learn more about KM I reviewed various materials from a variety of sources. My initial intention had been to create a stand-alone resource that an agency could use to implement a KM process. I hoped that it would be possible to gather all the information an agency would need into one document. As I began to review the available material, however, I quickly discovered that there is no single best approach to KM. Each agency's needs, resources, and challenges would require a customized approach to KM which was impossible for me to capture in a single guide. Rather than abandon the idea, however, I used the information contained in the available material to create a guide which could

⁷ Two agencies responses indicated they felt it had not had an adverse impact and one did not answer.

serve as a roadmap for agencies looking for assistance in establishing a KM process. The guide would need to make clear that agencies looking to implement a KM process should determine which approach works best for them and design the process accordingly. The guide would provide a framework that agencies could use as they design their process. Taking this approach allowed me to create a manageable guide that, I hope, is general enough to be applicable to any agency and that provides information detailed enough to guide the creation and implementation of a KM process.

A review of the available literature also confirmed that the issues facing state agencies such as, an aging workforce, knowledge loss through turnover, and failure to have a KM process in place are impacting many other organizations. The issues were summed up nicely in a 2002 report written by David W. DeLong in which he stated “[c]hanging workforce demographics, marked by an aging labor force, more competitive recruiting and faster turnover among younger employees, are creating unprecedented knowledge retention problems in many industries, threatening to reduce the capacity for innovation, growth and operational efficiency.”⁸ A recent poll from CareerBuilder.com found that one-third of employers were concerned top performers would look for work elsewhere as the economy improved.⁹ A poll conducted by the Society for Human Resources Management (SHRM) found that 30 percent of employees said they were “very likely” or “likely” to look for work with other employers as the economy improves.¹⁰ This indicates that agencies need to be concerned not only with losing employees when the economy improves, but with losing their best employees.

⁸ De Long, David W. (2002). Better Practices for Retaining Organizational Knowledge: Lessons from the Leading Edge. Accenture Institute for Strategic Change Research Report. Cambridge, MA.

⁹ CareerBuilder.com. (2011). Quarterly Hiring Outlook is the Strongest in Three Years, According to CareerBuilder and USA TODAY's Latest Job Forecast. Retrieved from:

<http://www.careerbuilder.com/share/aboutus/pressreleasesdetail.aspx?id=pr627&sd=3/31/2011&ed=12/31/2011>

¹⁰ Society for Human Resources. (2010). 2010 Employee Job Satisfaction: Investigating What Matters Most to Employees. Alexandria, VA.

Implementation Plan

Action Steps

1. Create the KM guide.

I have created the KM guide using the research materials I reviewed and the information provided from survey participants.¹¹

2. Review the KM guide.

In an effort to ensure the information provided is clear to the target audience (state agencies), I intend to ask that the agencies who have implemented a KM process to review the guide and provide feedback on how helpful the guide would have been in designing their process and if they feel the information can help them improve their current process. I would also ask that the agencies who expressed interest in implementing a KM process to review the guide to determine if it would provide sufficient guidance to assist them in the design and implementation of a KM process. Anticipating a less than 100% response rate from respondents, I would ask that everyone who responded to the survey review the guide in hopes that I would receive responses from a portion of them.

3. Make any necessary changes to the guide.

Incorporate the feedback provided by agencies into the KM guide.

4. Make the guide available to agencies.

Once finalized, the guide can be provided to agencies via HRD's web site and agencies notified of its availability through an e-mail or pod cast.

5. Offer additional assistance to agencies.

In addition to the guide I will create a training curriculum to be presented to agencies who would like additional information regarding knowledge retention.¹²

¹¹ See Appendices

Timeframes and Costs

Once my CPM project is finalized I will feel comfortable providing the guide to agencies for review and suggestions. Given the guide's length I would provide agencies one month to respond with changes and suggestions and would be flexible with this deadline. While I would want to have the guide completed and made available as soon as possible, I think the feedback from agencies is necessary to ensure the guide will be useful. The time necessary to incorporate any suggested changes into the guide will depend on the extent of the changes requested but I anticipate being able to complete this within a month. Baring any unforeseen issues, the completed guide can be added to the HRD web site within a week or two of completing the changes and agencies notified of its availability shortly thereafter. Overall, I hope to have the guide completed and available no later than May 2012.

The costs to provide this guide are negligible involving my time and the time of those providing input and the technology resources necessary to make the guide available to agencies.¹³

Potential Obstacles

There are few obstacles to making the KM guide available to agencies. Once the guide is completed it will need to be reviewed by HRD leadership before being provided to agencies, but I do not anticipate any difficulties with this as its creation was done with the knowledge of both my manager and division leadership.

The bigger obstacle will be getting agencies to use the guide and to focus on the importance of implementing a KM process. While electronic communication can bring attention to this issue, e-mails and podcasts are often buried under other more pressing priorities. To combat this, I intend to contact agencies individually to determine if they are interested in having HRD provide a training session

¹² While the KM guide is not completed and ready for distribution to agencies, an agency has already requested assistance establishing a KM program. HRD has tentatively agreed to provide this assistance in mid February 2012. The presentation and flowchart to be used are attached as appendices.

¹³ Several agencies have expressed interest in receiving assistance regarding KM from HRD. Working with the Training Director I am creating a curriculum to be presented to agencies. Revenue generated from providing this service would offset any expense of creating the guide and the curriculum.

regarding KM. I would also look for opportunities to present this information to agencies in a group setting. For example, during classes held as part of the various HRD Certification programs, I could discuss the concept of KM and direct participants to the guide available on the web site and the KM services available from HRD.

Communication with key stakeholders

Again, the most important stakeholders in the implementation of a KM process are those within the agencies. The KM guide provides strategies for identifying stakeholders and obtaining their support for implementing a KM process. Also, I'd like to use the opportunities to publicize the KM guide to address any concerns raised by stakeholders directly.

Integration into standard operating procedure

Once the guide is made available to agencies, it will need to be periodically reviewed and updated as new information becomes available. Also, as stakeholders within agencies change and new priorities develop, it will be necessary to ensure that agencies remain aware of the importance of KM. By incorporating this into the information already reviewed on the HRD web site, this will become part of the standard offerings to state agencies from HRD.

Evaluation Method

Six months after the KM guide is made available to agencies a survey can be provided to agencies asking for information regarding their KM process and their awareness of the resources offered by HRD regarding KM. If usage rates of the guide and the number of agencies requesting that HRD provide training regarding KM are low, agencies can be asked directly what obstacles they are facing that prevent them from implementing a KM process, and what support HRD can provide to assist them in overcoming these obstacles.

Summary and Recommendations

Summary

A review of information regarding the State Employee population revealed that sufficient numbers of state employees were leaving state government to justify assisting agencies with a KM process. Therefore, I created a KM process which would provide a framework for agencies to use while creating and implementing a KM process.

Through a review of the literature available regarding KM, I discovered that creating a comprehensive guide to KM would be nearly impossible as the needs and characteristics vary greatly between agencies. Rather than abandon the idea, however, I created a resource which will assist agencies in the creation of their own KM process.

Using a variety of resources, including information provided by agencies describing the obstacles to implementing a KM process, I created a KM guide that will eventually be made available to agencies through the HRD web site. Before making this guide available to agencies I intend to request feedback from several agencies on the usefulness of the guide and then make any necessary changes and incorporate suggestions into the final product.

I hope that I have created a road map which provide information to agencies about the major components of a KM process, and the potential obstacles they may face. Agencies can use this information to guide their research as they create a customized process which addresses its individual needs.

Recommendations

Given the current state of KM processes within the State, my immediate recommendation is to ensure agencies are aware of the need for this type of process and the risk of failing to take the steps necessary to address this issue. As I discovered from the information provided by agencies, and the resources I reviewed, no KM process will be successful unless leadership throughout an organization see

the need for this type of process and provide the necessary resources to support KM. I fully understand that without this type of support, my guide will be of little use to agencies. Hopefully, the existence of such a guide and periodic inquiries to agencies regarding KM will make agencies aware of this issue.

Resources

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Appendices

Age Range and Pay Band

Knowledge Management: A Guide to Capturing and Using the Knowledge of Your Employees

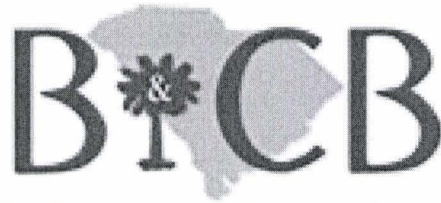
Knowledge Management PowerPoint Presentation

Knowledge Management Flowchart

Age Range and Pay Band

| | Less than 25 Years | 26-35 | 36-45 | 46-55 | More than 55 |
|---------------------|--------------------|--------|--------|--------|--------------|
| Band 1 | 1.69% | 9.46% | 11.49% | 41.22% | 36.15% |
| Band 2 | 10.45% | 16.69% | 19.20% | 31.41% | 22.26% |
| Band 3 | 6.38% | 19.99% | 21.74% | 30.41% | 21.47% |
| Band 4 | 2.38% | 21.98% | 24.85% | 31.81% | 18.98% |
| Band 5 | 1.21% | 21.57% | 27.70% | 30.09% | 19.43% |
| Band 6 | 0.25% | 13.62% | 27.90% | 33.31% | 24.92% |
| Band 7 | 0.00% | 7.36% | 27.35% | 38.30% | 26.99% |
| Band 8 | 0.00% | 3.23% | 21.35% | 42.95% | 32.47% |
| Band 9 | 0.00% | 3.03% | 13.64% | 37.12% | 46.21% |
| Band 10 | 0.00% | 2.17% | 6.52% | 30.43% | 60.87% |
| Unclassified | 1.97% | 9.85% | 21.67% | 33.50% | 33.00% |

Note – this information is restricted to agencies active in the SCEIS system as of January 31, 2012.



SC Budget and Control Board
Human Resources Division

Knowledge Management

A Guide to Capturing and Using the Knowledge of Your Employees

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Knowledge Management

Knowledge Management (KM) is the process by which information held by employees within an organization can be captured and shared among employees. This guide is designed to provide a framework for agencies to use to develop and implement a KM process.

Why Knowledge Retention is Important

First, consider your agency's workforce. Is your workforce comprised of a large number employees who are eligible to retire or who have already retired and been rehired by your agency? Imagine how your agency would be impacted if these employees left your agency without recording the knowledge and experience they have gained while working for your agency. Also, review the turnover rate among employees within your agency. How likely is your agency to lose experienced employees whose knowledge is not captured to be used by those who remain in the agency or who are hired to replace them? Finally, consider knowledge held by a few employees, or even in some cases, one employee that is not available anywhere else. How would your agency cope if these employees were to suddenly leave your agency or become unable to work?

Secondly, think about how much time your employees spend trying to determine how to do something that someone else in your agency already knows how to do. Think about the new employee who has to ask more experienced employees for guidance as unfamiliar situations arise. The new employee spends time finding someone who can assist them and then the more experienced employee has to take time to explain the process to the new hire. Now imagine if the information the new employee needed was documented somewhere within the agency and could be retrieved without interrupting the work of other employees.

Another benefit to capturing the knowledge within your agency and making it accessible to your employees is that this knowledge will be available for use in all areas of your agency. This will allow you to use the information your agency already has in new ways.

Documenting processes within your agency will also make it easier to implement process improvement measures. Once a standard, consistent, process is agreed to it can then be reviewed to determine if improvements can be made to that process. It is nearly impossible to improve a process that has not been documented.

Key Terms

Explicit Knowledge: knowledge that is easily documented. Examples include policies and procedures.

Implicit Knowledge/Tacit Knowledge: knowledge gained through experience that cannot be easily documented.

Knowledge Management (KM): the process of creating, acquiring, sharing and managing knowledge.¹

Knowledge Retention: the process of documenting both explicit and implicit knowledge contained within an organization.

Knowledge Transfer: the implementation of a process to facilitate sharing of knowledge among employees.

This Guide

KM is a complex process that can take many forms. This guide is not intended to exhaustively review all aspects of KM but, rather, to provide a framework for an agency interested in designing a KM process.

Obstacles

While each agency will face unique issues and obstacles when implementing a KM process, some common obstacles include the following

- Lack of time
- Lack of resources
- Hoarding of knowledge
- Lack of trust
- Lack of support for the KM process
- Cultural Obstacles

Below are some suggested strategies to address each obstacle:

- Lack of Time:
This is perhaps the most often cited reason agencies are unable to implement a KM process. While it certainly cannot be disputed that the time of agency employees is a precious and limited commodity, there are ways to address this issue. First, don't tackle everything at once. Break the KM process into small chunks which will allow employees to work and finish tasks quickly. This will lead to a sense of accomplishment and allow employees to work the tasks in when their schedule allows. Second, spread the work around. While a KM process should have a leader the work of gathering and documenting information can, and should, be pushed down to the people performing the processes as much as possible. A single process assigned to each person will have little impact on an employee's workload. Finally, focus on the time that will be saved once a KM process is in place. Consider the time employees spend trying to figure out a process another has performed before, or searching for a knowledge source within your agency. With a successful KM process in place, employees will have access to information faster and easier which should save time.
- Lack of Resources:

¹ Society for Human Resources. (2005). Knowledge Management Series Part I: Knowledge Management Overview. Retrieved from:
http://www.shrm.org/Research/Articles/Articles/Pages/Knowledge_20Management_20Series_20Part_20I__20Knowledge_20Management_20Overview.aspx

Lack of resources may mean lack of people to implement and take part in a KM process or lack of physical resources necessary to record and retrieve knowledge. Lack of personnel really translates into lack of time and can be addressed using the techniques described above. Lack of physical resources may be a higher hurdle for agencies to overcome because this often requires an investment in technology an agency may not be able to afford. To agencies facing this situation I would urge you to carefully consider if KM is something you can afford to forgo. Consider the cost to your agency if specialized employee knowledge was suddenly no longer available or how much your agency loses each time an employee makes an error or fails to take advantage of an opportunity because they lacked the knowledge other employees may have.

Also, avoid getting caught up in the technology of KM and instead focus on the goals. While wikis, social networks, blogging, electronic bulletin boards, and all the other technology options referenced in most KM processes may make things easier, a lot can be accomplished with nothing more than a shared network drive and basic office software. Don't let the cost of tools you **could** use determine whether you implement a KM process. Think of it this way, you can move the same ton of dirt with a truck or a wheelbarrow, both will work and both are better than doing nothing.

A lack of resources may also mean there are limited options available to provide incentives to employees to participate in KM efforts. If this is the case, non-monetary incentives such as employee recognition, praise, and increased job opportunities can be used.

- Hoarding of Knowledge

This is perhaps the hardest of the obstacles listed above to address. Some employees are compelled to jealously protect the knowledge they hold because they believe it provides them some power or job protection. Unfortunately, this belief can easily be reinforced with careless management strategies and a lack of appreciation for the time an employee spends sharing their knowledge with others. Depending on how entrenched this belief is for your employees, you may have to address this as a broader cultural issue before you can move forward.

As with any change in culture, communication is key. The importance of KM and the agencies' motivation in implementing this type of process must be clearly communicated to employees. Employees may initially be concerned that the implementation of this process is in preparation for a reduction in force. Therefore, it is important to stress all of the benefits of KM, particularly those that benefit the employee. These include:

- Opportunities to improve processes
- The chance to be rewarded for sharing knowledge
- The reduction in training time for new employees. This will ensure that the new employees are able to contribute faster and that more senior employees have to spend less time training the employees.
- A chance to share their wisdom. (There are few things the human animal likes more than talking about themselves and their experiences.)

Along with explaining the benefits of a KM process, it is also important to make sure everyone knows that they are expected to participate in this process as part of their normal

job duties. Employees should be evaluated on their participation in KM as they are on all other job duties.

The message that KM is beneficial must come from the top down and be reinforced at **every** level of management. As stated previously, cultural changes such as these are not easy and require the support of leadership to be successful.

- Lack of trust

Like knowledge hoarding, this particular obstacle may require that extensive cultural changes be undertaken. Employees have to feel confident that an agency is not documenting the knowledge they hold just to make it easier to terminate them. Employees also have to feel comfortable sharing experiences (both good and bad) without being made to feel incompetent or threatened. Finally, agencies have to ensure that employees are aware of their impact on the agency's success as they share their knowledge and participate in the KM process.

- Lack of support for the KM process

As stated previously, without the support of **all** levels within an organization, it is nearly impossible for any initiative to be successful. Often, lack of support comes from the things listed above: lack of trust, scarce resources, hoarding of knowledge, and mistrust. It's important to address each of these obstacles with agency leadership and gain full buy-in **before** rolling out a KM process. The next section discusses how to gain buy-in from stakeholders.

As with any change, in order to successfully implement a KM program in your agency the culture of your agency must support this type of initiative. The strategies above will help address specific obstacles but, ideally, the overall agency culture would be one that supports the sharing of knowledge. A culture that supports knowledge sharing is one that looks for innovation everywhere, where people are encouraged to debate issues, and decisions are made with the involvement of many employees, employees are expected to look for new knowledge and apply it regularly, and the organization constantly questions how things were done in the past and looks for constant ways to improve.²

Stakeholders

Stakeholders are individuals or groups within your agency who have an interest in the outcome of the implementation of a KM process. Generally, stakeholders can be divided into several groups, including:

- Agency leadership (Director, Deputy Directors, etc.)
- Middle Managers (those who manage portions of the agency through other managers or supervisors)
- First-line managers
- Employees
- Customers

² De Long, David, & Fahey, Liam. (2000). Diagnosing Cultural Barriers to Knowledge Management. Academy of Management Executives, 14 (4), 113 -127.

All of the groups above have some interest in ensuring the smooth operation and success of your agency. As such, they should be committed to KM. It is vitally important, particularly in the early stages of implementing a KM process, for leadership to model behaviors that encourage a commitment to KM. Often, gaining this support requires different approaches for each group.

Agency leadership

Agency leadership often faces the unenviable task of deciding where to use scarce resources to fulfill the mission of their agency. In order to gain support from these individuals for a KM process you must examine the benefits to the agency of implementing such a process and the costs of failing to do so. This may involve an examination of your agency's workforce to determine which processes are vulnerable to knowledge loss due to the turnover among current employees including those approaching retirement. A review of an agency's critical processes may also reveal gaps in documentation which could have disastrous effects should an agency employee unexpectedly leave. Fortunately, the first step in creating a KM process is identifying areas most at risk for knowledge loss so this examination will also be useful once agency leadership support is achieved.

Middle Managers & First Line Managers

Gaining the support of middle and first line managers is crucial to the success of any initiative within an agency. While agency leadership may formally control an agency's direction and allocation of resources, it is managers who are in the best position to influence agency employees to participate in the KM process. Fortunately, a lot of the strategies used to convince agency leadership of the importance of KM can also be used to gain the support of managers. What may set managers apart from agency leadership, however, is the amount of knowledge of day-to-day processes they have. Often these are employees who have been with the agency for an extended period of time and have a great deal of valuable knowledge. Therefore, you will need to gain commitment from them both as a manager and as an employee who has knowledge to share. It is critical to address the concerns of these employees as described above and ensure they are fully onboard **before** attempting to roll this process out to employees. Managers committed to this process will be your most valuable resource in encouraging employees to participate.

The importance of a KM process should be stressed to managers as they often are faced with lots of "important" tasks or priorities. I would strongly suggest that participation in this process be made a formal part of a manager's performance review. This will provide a mechanism to focus managers on KM and measure their support and participation.

Employees

Employees should be heavily involved in capturing of all knowledge related to their job duties. No one knows the requirements of a job or task better than those who perform it on a regular basis. The keys to getting buy-in from employees are:

- Demonstrated support from all levels of leadership
- Explanation of the advantages to the agency
- Explanation of the advantages to the employee (i.e. What's in it for me?)
- Incentives to contribute to the KM process
- Open an honest communication regarding the obstacles described previously
- A mechanism to hold employees accountable for their participation

Customers

Customers are often a good source of information when documenting knowledge within your agency, particularly implicit knowledge. Asking customers to share experiences and feedback can provide valuable information from an outside perspective. If this is a source of information your agency would like to pursue, it is important that customers feel they can share honest feedback and that this information will be used to improve the processes used to serve them.

Steps to Creating and Implementing a KM Process

The steps described below should be implemented only **after** the preliminary work of gaining stakeholder support and addressing the obstacles described above have been completed.

Step 1: Identify areas of critical knowledge & risk³

While all knowledge within an agency is valuable, efforts should be made to identify knowledge related to the critical processes of your agency and the risk of losing this knowledge. This can be accomplished in a variety of ways and the actual evaluation process will vary based on your agency's size, mission, and organization. It is important to spend the necessary time to complete an analysis of your agency rather than assuming management knows where knowledge is held within an agency. Often, there are hidden pockets of knowledge within an agency that are critical to the agency's ability to operate.

A suggested approach is to have first-line managers review the processes used by their team and determine which are most critical. These processes can be further reviewed by middle-managers and senior-level leadership to determine which are most critical to the agency.

Once these processes are identified, managers, along with assistance from agency leadership and human resources, should review the employees performing these functions to determine the level of risk that the employees performing these duties will leave. Particular attention should be paid to situations where a single employee holds knowledge. Even if this employee has no plans to leave an agency they may become unable to work with little or no notice.

Step 2: Document and share explicit knowledge

Explicit Knowledge is knowledge that can be easily documented. This includes process information that is consistently used and can generally be captured in a policies, procedures, and flowcharts. This information is often the easiest to capture and is particularly important since it is applicable nearly every time a process is executed.

Technology can assist in documenting and sharing explicit knowledge but avoid making the process more complicated than necessary. Generally, policies, procedures, and flowcharts can be created using software already available to employees. A shared drive can be created to make this information easily available to all employees.

Since explicit knowledge is held by every employee, documenting this type of knowledge can, and should, be the responsibility of the employees actually performing the work rather than management or

³ KM and workforce planning overlap significantly, particularly in regards to identifying the areas which should be targeted for a KM process. The Budget and Control Board's Human Resources Division can provide assistance with workforce planning.

human resources. This allows the responsibility for documenting this information to be spread over a large number of employees with each responsible for documenting and reviewing a few processes. By putting a review process in place, by either a first-line manager or co-worker, you can ensure the information recorded is correct and in a standard format.

It is important that employees be held accountable for documenting this information and that this work be treated as any other job duty important to an employee's position. For this reason, it is recommended that this be included in their performance review process.

Once this information is documented, it should be stored in a way that is easy to retrieve and is accessible to all employees who take part in the applicable process. Again, the use of technology should make this process easier rather than add difficulty to the situation. The particular process used in your agency will vary depending on the size of the agency, the number of people who need access to the information, and the technological comfort of your employee population. There are some general guidelines, however, that will make using the information you have gathered easier:

- **Save the information electronically.** Paper manuals and flowcharts are hard to update and it is difficult to ensure everyone is using the most up-to-date information.
- **Use a standard naming convention.** Saving each process or procedure as a separate document with a descriptive name makes it much easier to use. Also, grouping processes logically and saving in separate folders can assist in organization.
- **Include an "updated" date.** Each document should include the date it was created as well as the date it was last updated. Including a "change history" section will also allow you to document what changes were made to the process and when.
- **Indicate the process "owner".** Clearly identify the "owner" of a process so others will know who to notify if a change or correction needs to be made.

This process can seem overwhelming given the sheer number of processes used by an agency. By dividing the task among as many employees as possible, however, you can realize quick successes and rapidly build your knowledge resources. You'll need this momentum as you begin to document implicit knowledge in Step 3.

Step 3: Document and share implicit knowledge

Unlike explicit knowledge, implicit knowledge is difficult to document, may only be applicable in some circumstances, can only be gained through experience and is, arguably, the most valuable resource an agency has.

Implicit knowledge is information that can make your processes work better, assist in handling unusual situations or emergencies, increase consistency across employees, and can decrease the time it takes for a new employee to fully contribute to an organization.

The nature of implicit knowledge requires that an employee want to share their knowledge since it is uniquely theirs and gained through their experiences. Therefore, it is particularly important to address any barriers that may keep someone from fully sharing their knowledge as part of the effort to document implicit knowledge. It is equally important to reward employees for efforts they make to share this knowledge.

Because implicit knowledge is hard to document as a series of steps or instructions it is often hard for employees to identify what implicit knowledge they hold and to articulate this knowledge for others. There are a variety of techniques which can be used to help employees with this process. In order to determine which method to use, consider how the employees most likely to use the information are comfortable accessing information. One way to determine this is to simply survey the employees involved and ask for their input.

Some methods for documenting implicit knowledge are described below:

Mentoring

Mentoring is a process in which experienced employees provide assistance to less experienced employees allowing these less experienced employees access to their knowledge. The structure of your mentoring program will vary depending on your agency's culture and how extensive you want your mentoring program to be. Some questions you'll need to ask yourself are:

- **Which positions should participate in the mentoring program?**

To answer this question you'll need to examine the work done by employees in your agency and identify those that require the most non-documentable direction. I would caution you to review all positions when making this determination regardless of pay band or organizational level. While it is obvious that an agency director's duties are complex and hard to document, it may be equally hard to document the knowledge required to maintain equipment or process child abuse cases.

- **Which employees should be invited to participate in the mentoring program?**

You may decide to have all of the employees performing a particular function to participate in the mentoring program or you may only ask those you that have identified as "high-potential employees" to participate. A word of caution about selecting certain employees for mentoring, be sure your selection criteria are job relevant and objective. I would urge you to be careful excluding employees from a mentoring program since all employees would benefit from having someone with more experience assist them and even employees you haven't identified as high-potential employees may remain in a position for an extended period of time.

- **Who should serve as a mentor?**

This may be a harder question to answer than you think. The employee should be knowledgeable, willing to share their knowledge, patient, a good communicator, willing to spend the time working with their mentee, trustworthy, and personable. I'm sure your agency has tons of these types of employees who can be easily identified and who have plenty of time to support this type of program but, if not, there are some steps you can take to increase your pool. First, communication is key! It is vital that everyone understand that assisting more junior employees is important to agency success. Second, you have to reward those willing to spend time helping employees. This doesn't have to be a formal, monetary award (although those can work to). Positive feedback, the opportunity to expand their knowledge, and a chance to work away from their day-to-day jobs can all provide the incentive necessary to encourage employees to act as mentors. You also have to demonstrate your commitment to this process by giving mentors the time to provide mentoring. This may mean shifting some of their work to others to provide mentors them time to assist more junior employees. Of course, this process should result in the junior employees getting up to speed faster and contributing more in a shorter period of time. Only your agency can determine if the tradeoff is worthwhile.

Some employers choose to have supervisors or managers act as mentors. This may not be the best approach for two reasons. First, the mentee has to be comfortable asking the mentor questions without worrying about looking incompetent in front of an authority figure. It is generally easier to ask a peer these questions rather than a superior.

Secondly, the manager or supervisor is often not doing the work the mentee is. The supervisor may have done so at some point in the past or may “help out” when work loads are high, but the day-to-day experience of performing the job is better explained by someone still actively performing the job duties.

Storytelling

While storytelling can easily be dismissed because it sounds silly, it is one of the most robust, and easiest to implement, knowledge sharing techniques there is. Imagine the depth of knowledge gained from having your employees share the lessons learned from a real-life scenario experienced by the storyteller. Debriefing, case studies, after action reviews, whatever you want to call it, the knowledge gained and shared through storytelling is extensive. Employees may also find it easier to understand information presented in the form of a story rather than a bulleted lists of facts.

Implementing storytelling is as easy, or as complicated, as you want it to be. At its most basic level, storytelling may involve having employees present narratives of situations they have faced over some period of time, for example each month or quarter, and having the “lessons learned” from the situation recorded for future reference. Others can be invited to comment on what went well or what they would have done differently.

Another option is to have employees record a formal case study in writing or using audio/video recordings so that this information can be retrieved for future use. The down side to this is that people who have experienced a situation are often so immersed in the details they fail to share everything without some prompting from an outsider. An option to facilitate this is to have someone interview the person to ensure all the information is gathered.

When implementing storytelling it is important to remember that this is not an opportunity to identify who is to blame in a situation. For storytelling to be successful, employees must feel comfortable sharing both things that went well and things that could be done differently. Similarly, employees must be prepared to hear suggestions for improving the outcome from others.

The information gained from storytelling can, and should, be used to make changes to standard processes as appropriate. In this way, implicit knowledge can be incorporated into the explicit knowledge within an agency.

Knowledge Directory

Almost every organization has some mechanism to identify a person by name or job title, but think how valuable it would be to be able to identify employees by the knowledge an employee holds. This could include knowledge they gained through experience from your organizations as well as other jobs or even outside activities. For example, think about a supervisor who has received training with Six Sigma or a caseworker who speaks fluent Spanish. A quick survey or interview with an employee can quickly identify knowledge held by current employees. This same process can be completed as an employee joins your organization. Some talents or training can be assigned to an employee by virtue of their

position automatically. For example, an accountant would have knowledge of accounting principles. An employee's "knowledge portfolio" can be expanded as they receive new training or their jobs change. To ensure this information is up-to-date, a knowledge audit can be incorporated into an employee's annual performance review.

Electronic Bulletin Boards

If your agency's employees are comfortable with technology and have access to computers on a regular basis one option is to create an internal electronic bulletin board which would allow employees to post questions and receive input from others in the organization. These questions and subsequent answers could be archived and made searchable for future situations. These boards are fairly easy to establish and can facilitate communication among groups that may work in different locations or on different shifts. The boards can be divided by topic or by group, whichever makes sense for your population.

If you have concerns your employees will not access the boards on a regular basis you can put a system in place in which employees within a certain group receive e-mail notification that a question has been posted and request that they review the bulletin board and provide input.

If you choose to implement a bulletin board be careful to ensure the technology doesn't overwhelm your employees or make the tool difficult to use. Your first impulse may be to implement the most complicated system with every bell and whistle available. Resist this inclination, however, and think about your population as you determine the best approach to take.

Wikis/Blogs

Wikis and Blogs are electronic mechanisms to post information which is accessible and, generally, searchable by others. These can provide employees with the opportunity to record their experiences, provide advice to other employees, or record information they have learned in a manner that can be accessed easily by others. As with all KM tools, be sure the technology you are using is appropriate for your audience.

Other Methods

The methods described above are broad categories of methods to capture implicit knowledge. These categories can include several variations and can be customized for the specific needs of your agency. Entire books and various articles have been written on methods for KM and can provide valuable information as you design your process. The one thing to keep in mind as you evaluate ways to capture implicit knowledge is to remember that this type of knowledge can only be gained through experience and the method you use should provide an opportunity for employees to share their experiences in a way that benefits others within your agency.

Step 4: Process in place to review and update the information gathered

Now that you've documented all of the knowledge in your agency you may think your work is done. Unfortunately, it's not. Once the initial information is documented it can be easy to see the project as "complete" and move on to the next thing on your list. Knowledge, however, gets stale very fast. Six months, six weeks, or, in some cases six days, after information is recorded it may become outdated or incorrect. In order to ensure your employees are not using outdated information a process must be put in place for the periodic review of information.

Explicit knowledge is fairly easy to review for accuracy and updates. By assigning employees the task of updating a few processes each, and requiring that the information be reviewed in total at some set

interval, for example yearly, the tasks of keeping explicit knowledge up-to-date can be made more manageable.

Documented, implicit knowledge may be harder to keep updated. Stories, bulletin boards, wikis, and blogs produce rich information but, since they deal with situations outside of those covered by standard procedures, may be more difficult to review and update. One option is to have a quarterly, or yearly, review of the information contained in these sources by the entire group of employees performing the relevant tasks. This will provide an opportunity to remove duplicate information, ensure everything is categorized correctly, and verify that the information is still correct. Another benefit is that it will ensure all employees hear the information contained in these sources even if they had not thought to use the resource before. This approach will also keep KM fresh in the minds of your employees.

Step 5: Pilot

Once you have decided on an approach you think will work for your agency it is a good idea to pilot it with a small group before rolling out your KM process to the entire population to work out any difficulties that may come up. This will allow you to correct any large issues, especially those related to technology, before rolling the program out to the agency at large.

You may also find that it is necessary to take a different approach for groups within your organization. For example, the methods used by senior leadership may not work for frontline workers. Pilots among small subsets of various groups within your agency will identify any adjustments that need to be made based on the individual needs of the group.

In addition to giving you the opportunity to make changes to your process, piloting also gives you the chance to score quick “wins” which will help build momentum for the broader KM roll out. Be sure to identify these successes and publicize them. If difficulties arise during the pilot stage, discuss these as well, along with the changes implemented to address them. This will convey a sense of optimism toward the process.

Step 6: Measurement

Measuring the benefit of a KM process is difficult since it is hard to quantify what lost knowledge costs. This does not mean, however, that you should not measure aspects of the KM process.

First, while it is hard to quantify the benefits of a KM process, qualitative data can provide insight into how well a program is working. A simple survey, or small group meetings, allow you to ask employees if they find the available information available valuable and sufficient and if they have noticed an improvement in their ability to do their job because of the knowledge resources available to them. Supervisors and managers can also monitor employees to see if the time for new employees to become full contributors is reduced.

Measurements like the percentage of processes documented, participation rates in mentoring programs, and the number of times a resource is accessed can all be used to determine if your program is being used by your employees. It is important to remember that once a program is rolled out it can quickly be eclipsed by other competing priorities if efforts are not made to ensure employees stay focused on the importance of KM. In addition, monitoring the use of the program put in place will quickly alert you to the fact that the program may not be working as intended.

Measurement of individual involvement through the use of Employee Performance Reviews is important to hold ALL employees accountable for their involvement in KM. By including job duties related to KM you can emphasize that this is considered part of the duties of a person's position and formally document an employee's contributions.

Keep in mind, that in a world of constantly changing priorities and challenges, if something is not monitored it will quickly stop being done. Measurement, in whatever way you decide is best for your agency, will help ensure that KM remains a priority. Measuring the success of your program periodically will also indicate if improvements to the program need to be made.

Step 7: Monitor workforce changes and changes to processes to identify new areas of critical knowledge

If you have limited your KM efforts to certain populations within your agency based on workforce information or identification of critical process within your agency, be sure to monitor these characteristics to ensure the factors which led you to identify these populations still exist. If changes to your workforce or processes warrant a different focus for KM efforts, be sure to adjust your process as necessary. The frequency of this review will vary depending on the size of your organization (these changes are often obvious in small agencies but can easily be hidden in large agencies) and other factors impacting the mission of your agency.

Other Potential Benefits

Now that you have successfully implemented your KM process you may wonder if there are benefits beyond sharing knowledge within you agency. Below are a few examples of the benefits you can experience:

Process Improvement

It is nearly impossible to improve a process if you have not documented the current process. Documenting explicit knowledge allows for an easy review of the current process and examination for possible improvements. A review of implicit knowledge may provide ideas for process improvements while also identifying possible difficulties that can be addressed through process changes. For example, if a mentor advises a mentee on a process work-around this may indicate the process itself is broken and needs to be changed.

Standardization

By documenting procedures and capturing best practices you can increase consistency and standardization within your agency.

Other agencies

Think about the processes you perform in your agency which are also performed in other agencies. The mission of agencies may be different but the processes used are often the same. Think about two agencies with completely different missions, the Department of Labor, Licensing, and Regulation, and the Department of Health and Environmental Control. At quick glance these agencies would seem to have little in common with each other. A closer look, however, would reveal that both agencies share some similar process outcomes. For example, both agencies process a large number of licensing or permit requests. While the particulars of each type of license or permit may be different, if the

processes of both were well documented each agency may be able to gain process improvement ideas from the other.

Think about it on a more global basis. Every agency has core support functions like finance, human resources, and procurement. If each agency could easily review the processes of other agencies it would be possible for an agency to incorporate positive aspects of other agencies' processes into its own.

Information Sharing

Agencies often find it necessary to provide information on the processes used and tasks completed to individuals outside of the organization, for example legislators or regulatory agencies. Having this information documented will make it much easier to provide information when requested.

Agency Leadership Changes

With changes in agency leadership, it may be necessary to quickly provide information regarding the functions performed by agency employees to someone charged with making decisions regarding the direction of any agency. Having the knowledge within your agency documented and available will reduce the time necessary for new leadership to learn about agency functions.

Additional Assistance

HRD can provide assistance in the design of a KM process for your agency. For information regarding available services please contact your human resources consultant.

Resources

The resources below were used in the creation of this guide:

Ball, Ken & Gotsill, Gina. (2010). *Surviving the Baby Boomer Exodus: Capturing Knowledge for Gen X and Gen Y Employees*. Boston, MA: Course Technology PTR .

De Long, David W. (2002). *Better Practices for Retaining Organizational Knowledge: Lessons from the Leading Edge*. *Accenture Institute for Strategic Change Research Report*. Cambridge, MA.

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Read, William & Thibodeau, Jay (1999). Knowledge From Within. *The Practical Accountant* (32)(12), 59.

Knowledge Management

Knowledge Management

Knowledge Management (KM) is the process by which information held by employees within an organization can be captured and shared among employees.

Key Terms

- **Explicit Knowledge:** knowledge that is easily documented. Examples include policies and procedures.
- **Implicit Knowledge/Tacit Knowledge:** knowledge gained through experience that cannot be easily documented.
- **Knowledge Management (KM):** the process of creating, acquiring, sharing and managing knowledge.
- **Knowledge Retention:** the process of documenting the knowledge, both explicit and implicit, contained within an organization.
- **Knowledge Transfer:** the implementation of a process to facilitate sharing of knowledge among employees.

Obstacles to KM

- Lack of time
- Lack of resources
- Hoarding of knowledge
- Lack of trust
- Lack of support for the KM process
- Cultural Obstacles

Stakeholders

- Agency leadership (Director, Deputy Directors, etc.)
- Middle Managers (those who manage portions of the agency through other managers or supervisors)
- First line managers
- Employees
- Customers

Steps to Creating a KM Process

- Step 1: Identify areas of critical knowledge and risk
- Step 2: Document and share explicit knowledge
- Step 3: Document and share implicit knowledge
- Step 4: Process in place to review and update information
- Step 5: Pilot
- Step 6: Measurement
- Step 7: Monitor workforce changes and changes to processes to identify new areas of critical knowledge

Areas of critical knowledge and risk

- Review agency processes and identify those critical to the agencies mission
- Review agency demographics to determine which employees may be approaching retirement
- Review turnover data to determine likelihood employees will leave
- Identify knowledge held by a single or few employees

Explicit Knowledge

- Policies
- Procedures
- Flowcharts
- Checklists

Implicit Knowledge

- Mentoring
- Storytelling
- Knowledge Directory
- Electronic Bulletin Boards
- Wikis/Blogs
- Other Methods

Review and Update Information Gathered

- Explicit Knowledge
- Implicit Knowledge

Pilot

- Pilot with a small population
- Look for quick “wins”
- Experiment with different approaches within your agency

Measurement

- Qualitative Data
- Usage Date

Workforce and Process Changes

- Changes to workforce
 - Age/Years of Service
 - Turnover Rate
- Changes to processes

Potential Benefits

- Process Improvement
- Standardization
- Information Sharing with Other Agencies
- Agency Leadership Changes

Workforce Planning

- Resources Available
- Relationship to KM

QUESTIONS ?



Resources

- Ball, Ken & Gotsill, Gina. (2010). *Surviving the Baby Boomer Exodus: Capturing Knowledge for Gen X and Gen Y Employees*. Boston, MA: Course Technology PTR .
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